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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/527,613

09/21/2005

George Max Hood

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EXAMINER

SOOHOO, TONY GLEN

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

03/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/527,613	Applicant(s) HOOD, GEORGE MAX	
	Examiner Tony G. Soohoo	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-18 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. Claims 2 and 12 objected to under 37 CFR 1.75 as being a substantial duplicate of the respective claims 2 and 12. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1, line 7, and claim 2, line 2 and Claim 12 recites the limitation "the mixing blade" in line 2 however there are two blades in particular the 1st blade and 2nd blade thereby is unclear in which blade "the blade" is referring to. It is noted that the claims should be reviewed for consistent naming of the "a first, generally helical, mixing blade"

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 7, 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Longenecker 2611591.

The Longenecker reference shows a two or more 1st helical mixing blades 17, and a 1st second blade 21 mounted at a counter pitch which provides for an opposed transfer of material from that of the 1st helical mixing blade. See claim 1; column 3, lines 24-31, 53-63; column 3, line 73 through column 4, line 19.. Also the additional 2nd tapered second blade 19 attached to the end of the helical blade provides movement of material from the drum head to be lifted and dropped to the larger center diameter of the at 10, see figures.

6. Claims 1-3, 7 and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Peters 233820.

The Peters reference shows a drum 5, 9, with a drum head at 11, a 1st helical mixing blade 15, and a tapered second blade 16 mounted at a bent counter pitch which provides for an opposed transfer of material from drum head to be lifted and dropped to the larger central section so that the that of the 1st helical mixing blade may further carry the material. See page 2, col 1, lines 70-75 and col , lines 1-7, and lines 42-70.

7. Claims 1, 3, 7, are rejected under 35 U.S.C. 102(b) as being anticipated by Backman 5839824.

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The Backman reference (cited in the PCT search report as an X reference) discloses a drum 30 a 1st helical blade 60, 62, 64, and a 2nd blade 50, 54 and having a discharge blade 52.

8. Claims 1, and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Christenson 6149291.

The Christenson reference discloses a drum 74, 72, 76, 78, 79, a 1st helical blade 80, and a 2nd blade 82.

9. Claims 1, 3, 7, are rejected under 35 U.S.C. 102(b) as being anticipated by Schwing 4730934.

The Schwing reference (cited in the PCT search report as an X reference in the family of EP 188674) discloses a drum 1, 3, 9, 10, 6, 7; a 1st helical blades and 2nd opposed pitch helical blades 11, 12, 31, 32, 26, 27 in which extend to the drum head and provides an opposed transfer flow upon the rotation of the drum.

10. Claims 1, 3, 7, are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2002154112 to KAYABA Ind Co Ltd.

The KAYABA reference (cited in the PCT search report as an X reference) discloses a drum 1, and drum head 1b; a 1st helical blades and 2nd opposed pitch blades 3 in which extends to the drum head and provides an opposed transfer flow upon the rotation of the drum.

11. Claims 1, 3, 7, 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Pawley 4187028.

The Pawley reference discloses a drum 12 and 14, and drum head; a 1st helical blades and 2nd opposed pitch blades 22, 22 having drainage holes 32, in which the blades extend to the drum head and provides an opposed transfer flow upon the rotation of the drum.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 3-6, 8- 9, 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Peters 233820.

The Peters reference discloses all of the recited subject matter in the claims, as noted above, with the exception of the drum pitch and drum rotation (see claims 3 and 4 which defines opposite clock or anti-clock (counter clock) wise pitches in response to the pitches of the helical blade to produce the mixing or discharge); and with the exception of the angle between the helical blade with the second blade (see claims 5-6); and with the exception of the diameter of the drum being preferably about 2450 mm (see claims 8-9); and with the provision of two mixing blades each with the 2nd blade (see claim 14); and with the exception of the

angle of 13 degrees inclination of the drum upon the truck 6, 7 of Peters (see claim 18).

With regards to the pitches of the helical blade being oriented in the proper clockwise or counter clockwise to produce the standard discharge/mixing in response to the conventional country standard of rotation for cement mixing drums, it is noted, and has been acknowledged by the applicant's specification that the clockwise or counter clockwise standards of rotation is determined by each country's concrete industry standards. Accordingly, in light of the knowledge gleaned by the prior art to each country's concrete industry standard of cement truck drum rotation operation, it would have been obvious to a person having ordinary skill in the art to change the pitches of the helical blade and second blade to the respective pitch to cause the desired discharge or mixing upon the standard of drum rotation of each country that the cement mixer is to be used.

With regards to angle of the helical blade to the second blade, it is noted that the Peters reference does disclose a tapered blade 16 which is bent at an angle to the helical blade 15, see figs 2-3 and specification, col. 2, line 4-5. The angle and bend of the blade to the rotation (i.e. pitch) is a direct functionally effective parameter to produce a compromise in the lifting of the material or moving the material axially during a drum rotation. Since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller,

105 USPQ 233. In light of the knowledge gleaned by the prior art that the blade pitch is an effective variable in material transfer or material lifting, it would have been obvious to a person having ordinary skill in the art to modify the bend and angle between the 2nd blade and the helical blade so that the material is transferred and lifted at the most efficient comprise between the blade 16 and the blade 15.

With regards to the diameter of the drum being preferably about 2450 mm, the Peters reference discloses a drum having a diameter without particular pointing out the diameter dimension. As discussed above, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, and additionally, since it is known that the diameter of a drum is an effective variable in defining the amount of material in which it may process, in light of this knowledge gleaned by the prior art of drum sizing art for cement mixer drum, it would have been obvious to a person having ordinary skill in the art to change the size of the drum to be about 2450mm to produce an appropriate sized cement mixer drum size, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

With regards to the provision of two mixing blades with respective second blades , It is common knowledge in the art of cement mixer drum blades that

additional blades would produce additional mixing, transfer and processing.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide additional set of helical blade 15 and second blade 16 of the Peters device so as to provide additional mixing and transfer of material efficiency within the drum since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

With regards to the angle being 13 degrees inclination of the drum upon the truck, is it an known effective variable in the art of cement mixers that the drum angle inclination is chosen as a compromise between a larger angle to urge of material to fall back to the mixing head for effective mixing, and the choice of a smaller angle so that it is easier to discharge material from the drum head to the outlet end. Since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art (*In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).) and in light of the common knowledge of the angle being an effective parameter in mixing/discharge efficiently in the art of cement mixer drums, it would have been obvious to a person having ordinary skill in the art to choose 13 degrees from the finite choice range of zero to 90 degrees to provide a desired balance of the mixing and discharge operation of the cement mixer.

14. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Peters 233820 in view of Pawley 4187028.

The Peters reference discloses all of the recited subject matter in the claims, as noted above, with the exception of the having drainage holes on the second blade.

The Pawley reference discloses a drum 12 and 14, and drum head; a 1st helical blades and 2nd opposed pitch blades 22, 22 having hole passages 32 and deflector 34, in which the blades extend to the drum head and provides an opposed transfer flow upon the rotation of the drum. The mixing passage holes 32 provides a draining of the concrete past the mixing blade and which further cooperate with deflector blade 34 which provides and effective additional mixing effect, column 2, lines 53-65, without compromising the discharge operation.

In light of the knowledge gleaned by the prior art to Pawley, that drainage holes with a deflector may be provided upon a blade to provide an advantageous mixing effect, it would have be obvious to a person having ordinary skill in the art of cement drum mixers to provide for the blades of Peters, including the 2nd blade scoop16 to provide a more effective mixing without compromising the lifting discharge effect in the opposite drum rotation mode.

Allowable Subject Matter

15. Claim10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following disclose blades in a mixing drum. US patents: , 2618472, 3328006, 3795121, 4188127, RE23320.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony G. Soohoo whose telephone number is (571) 272 1147. The examiner can normally be reached on 8AM-5PM, Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tony G Soohoo/
Primary Examiner, Art Unit 1797

Tony G Soohoo
Primary Examiner
Art Unit 1797

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